

Work Order ID 144262

Monday, April 11, 2016 7:32:33 AM

144262

U/R

OK 4/16/16

Page 1

Item ID: D119-646-041

Accept

N900040100

Setup Start *NS1*

Revision ID: URF 15-560

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Stop *NS2*

Start Date: 4/11/2016 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 4/25/2016 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: APR 11 2016 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3887-041	D								
IIN-D119-646	C								

100

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-041

CHG003
004 See attachment
MLJ

110

0.00

110

Skidtubes

Memo

0.00

Skidtubes

1- inspect Mat'L D2500-1-190 for damage

2-Cut tube to length as per dwg D3887 (154.8")

3- Ensure squareness of ends and scribe batch#

16-4-11/16

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 4/11/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/25/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

135

QC5- Inspect part completeness to step on W/O

0.00

135

QC

Memo

0.00

Quality Control

**DAS
03
9-89** 16-4-12

Work Order ID 144262***144262***

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Item ID: D119-646-041 Accept

N900040100Setup Start ***NS1***

Revision ID: URF 15-560

Stop ***NS2***

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/25/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

Skidtubes

Skidtubes

Memo

0.00

1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog.
D3887.***Must use bending aid DT9544, ensure proper positioning***

2- Cut FWD end of tube as per dwg D3887.***Verify measurment***

3- Buff out marks left from bending

4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"

5- Open FWD saddle holes to finished size as per dwg D3887

6- Drill FWD x-bolt spacer holes using DT9816 and open to finished
size.(verify measurement)7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify
neasurement). Open to finished size.8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle
hole. (verify measurement) as per dwg.

9- C'sink FWD cap hole as per detail "C"

10- Drill holes for wearpads using DT8931, open to 0.297".

11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

12- Deburr and blow out chips from inside of tube.

16-4-12

16-4-12

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 4/11/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/25/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

**DAS
18
9-89**1 8 1604-12

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Page 7

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 4/11/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 4/25/2016 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091.								
	1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod <u>MB3876</u>								
	2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.								
	3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.								
	4- Deburr & Scribe batch # on Aft end of tube.								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.00							
Quality Control	TEST FIT USING FIXTURE DT10091.								

Handwritten notes and signatures:
846-0413
16-4-14
16-4-15
1

DAS
38
9-89

APR 20 2016

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: URF 15-560 Stop ***NS2***
 Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
 Start Date: 4/11/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 4/25/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180	QC10- Inspect visual per QSI004- ground welds	0.00							DAS 38 9-89
180									
QC	Memo	0.00							
Quality Control									APR 02 2016

190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								16-4-25

200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 9:20 OVEN TEMPERATURE: 320° FINISH TIME: 9:50								16-04-26



SEE

Attached
w/o change

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Item ID: D119-646-041

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 15-560

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Stop ***NS2***Start Date: 4/11/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/25/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220		0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3887.								
230	QC5- Inspect part completeness to step on W/O	0.00							
230									
QC	Memo	0.00							
Quality Control									

DAS
15
3:00DAS
34
3:00

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 4/11/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 4/25/2016 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
240									
HandFinish		0.00							
Hand Finishing	☆ SER Attached w/o change Memo 1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 <u>M134487</u> Sikaflex expire date: <u>16112</u> 2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>M133145</u> RTU 598 M134524 16107 3 -Inspect for foreign objects as per QSI 024 4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 <u>M134487</u> Sikaflex expire date: <u>16112</u>								
245	QC5- Inspect part completeness to step on W/O	0.00							
245									
QC		0.00							
Quality Control	Memo								

DAS
38
9-89

APR 27 2016

SEE
Attached
w/o change

DAS
38
9-88

APR 27 2016

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Item ID: D119-646-041

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 15-560

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Stop ***NS2***Start Date: 4/11/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/25/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

QC21- Final Inspection - Work Order Release

0.00

270

QC

Memo

0.00

Quality Control

MCS

APR 27 2016

MCS APR 27 2016

Picklist Print

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Page 1

Work Order ID: 144262

144262

Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016

Required Date: 4/25/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC
10.02.22 per PAR 09-043 EC verified by:DD IPP rev B
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190		Manufactured	No			110	Each	82.0000	1	1			
D2500-1-190									**				
Ext'n -I' Beam Tube 4"													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG002		82							
				140538		82							
D2579		Manufactured	No			140	Each	211.0000	2	2			
D2579									**				
Crossbolt Spacer													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG001		211							
				123997		3							
				141711		208							
D2855-3		Manufactured	No			240	Each	45.0000	2	2			
D2855-3									**				
Cap													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FP001		45							
				137525		45							

Picklist Print

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Work Order ID: 144262

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016

Required Date: 4/25/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

559.0000

16

16

NAS1611-005

O-RING

*******all 16/04/26*LocationLoc QtyLoc Code

FP001

559

m129198

11

m133498

348

m134488

200

D3492-5

Manufactured

No

240

Each

148.0000

16

16

D3492-5

Plug

*******all 16/04/26*LocationLoc QtyLoc Code

FP001

148

133396

8

136396

6

138198

2

140883

71

141422

61

D3672-1

Manufactured

No

240

Each

686.0000

2

2

D3672-1

Washer, Phenolic

*******all 16/04/26*LocationLoc QtyLoc Code

FG

10

85222

10

ST049

176

112218

72

127322

104

ST051A

500

134785

500

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Shop Packet Print

Page 2

Picklist Print

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Work Order ID: 144262

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016

Required Date: 4/25/2016

Start Qty: 1.00

Required Qty: 1.00

D3681-1

Manufactured No

160

Each

236.0000

8

8

D3681-1

Spacer

BB1604-12

Location

Loc Qty

Loc Code

LG001

236

236

142904

D3847-1

Manufactured No

240

Each

21.0000

5

5

D3847-1

Wearpad

ll 16104/21

Location

Loc Qty

Loc Code

FP001

21

10

11

138338

139988

B142743

x5

D3847-11

Manufactured No

240

Each

22.0000

1

1

D3847-11

Wearpad

ll 16104/26

Location

Loc Qty

Loc Code

FP001

22

2

1

19

137781

138418

141896

X1

D3885-1

Manufactured No

140

Each

8.0000

1

1

D3885-1

Standard Web

16-4-11 ll

Location

Loc Qty

Loc Code

LG002

8

8

142201

1

Picklist Print

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016

Required Date: 4/25/2016

Start Qty: 1.00

Required Qty: 1.00

D3903-1

Manufactured No

160

Each

9.0000

12

12

D3903-1

Spacer

**

Location

Loc Qty

Loc Code

LG001

9

140943

9

ALS4-1032-130

AELS4-1032-130 Purchased

No

220

Each

5,404.000

30

30

ALS4-1032-130

Rivnut

**

Location

Loc Qty

Loc Code

CCK005

5000

M134502

5000

FP001

404

M133077

404

AN3C5A

Purchased

No

240

Each

1,301.000

32

32

AN3C5A

Bolt

**

Location

Loc Qty

Loc Code

FG

5

122800

5

FP001

240

M133686

240

OVER002

1000

M134502

1000

ST350

56

M133234

56

B144329 x3

DEL-0472

lll 16104726

x30

x32

Picklist Print

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Work Order ID: 144262

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 4/11/2016

Required Date: 4/25/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

4,085.000

32

NAS1149C0332R

WASHER

all 16/04/26

Location

Loc Qty

Loc Code

FP001

2264

m132262

4

m132930

1004

m134063

1128

m134073

128

GA

122

m133284

122

ST266

1699

m133284

199

m134474

500

m134574

1000

X32

MS24694-C52

Purchased

No

Each

113.0000

2

MS24694-C52

SCREW

all 16/04/26

Location

Loc Qty

Loc Code

FP001

107

m127059

17

m133855

90

ST287

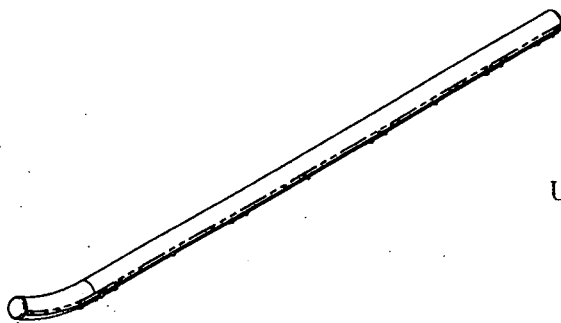
6

124308

6

X2

8 7 6 5 4 3 2 1



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 144262

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3872-1	PHENOLIC WASHER
14	8	8	8	D3881-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C48A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN960C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24894-C52	SCREW

RELEASED

UNDER REVIEW

15.04.30 URF15-560 AP

2014 NOV 24
ECN 14-528

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/291.

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 5.07 (ZN C2-8), ADD 118.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT1, P/L ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24894-C52 WAS AN3C5A, 2 P/CS (ZN C1-5, C1-6, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C4-5, C5-6, B8-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A8-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A8-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2875 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C48 (ZN C5-2, C2-2, C5-3, C5-3, C5-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE N (ZN B2-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
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AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
6 PL

D3847-1
WEARPAD
5 PL

MS24684-C52 SCREW
(1 PER SIDE)

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

Ø0.197
8 PL PER SIDE
REF

2.00 DISTANCE TO D3885-1 WEB, REF

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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2014 NOV 24 *q*

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MFG. APPR.		D3887	SHEET 2 OF 8
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AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

D3847-047
AFT WEARPLATE ASSY

AN3C5A BOLT
NAS1149C0332R WASHER
30 PL

D3847-045
CENTER WEARPLATE ASSY

D3847-043
FWD WEARPLATE ASSY

D3847-1
WEARPAD
5 PL

BLACK ANTI-SKID TO 0.6
ABOVE LOCATION RIDGE
TYP

11
Ø0.197
8 PL PER SIDE
REF

2.00 DISTANCE TO D3885-1 WEB, REF

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

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MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 3 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149CD332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT
D3804-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

D3849-043
AFT TRAINING WEARPLATE ASSY

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

2.00 DISTANCE TO D3885-1 WEB

D3849-041
FWD TRAINING WEARPLATE ASSY

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24884-C52 SCREW
(1 PER SIDE)

D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

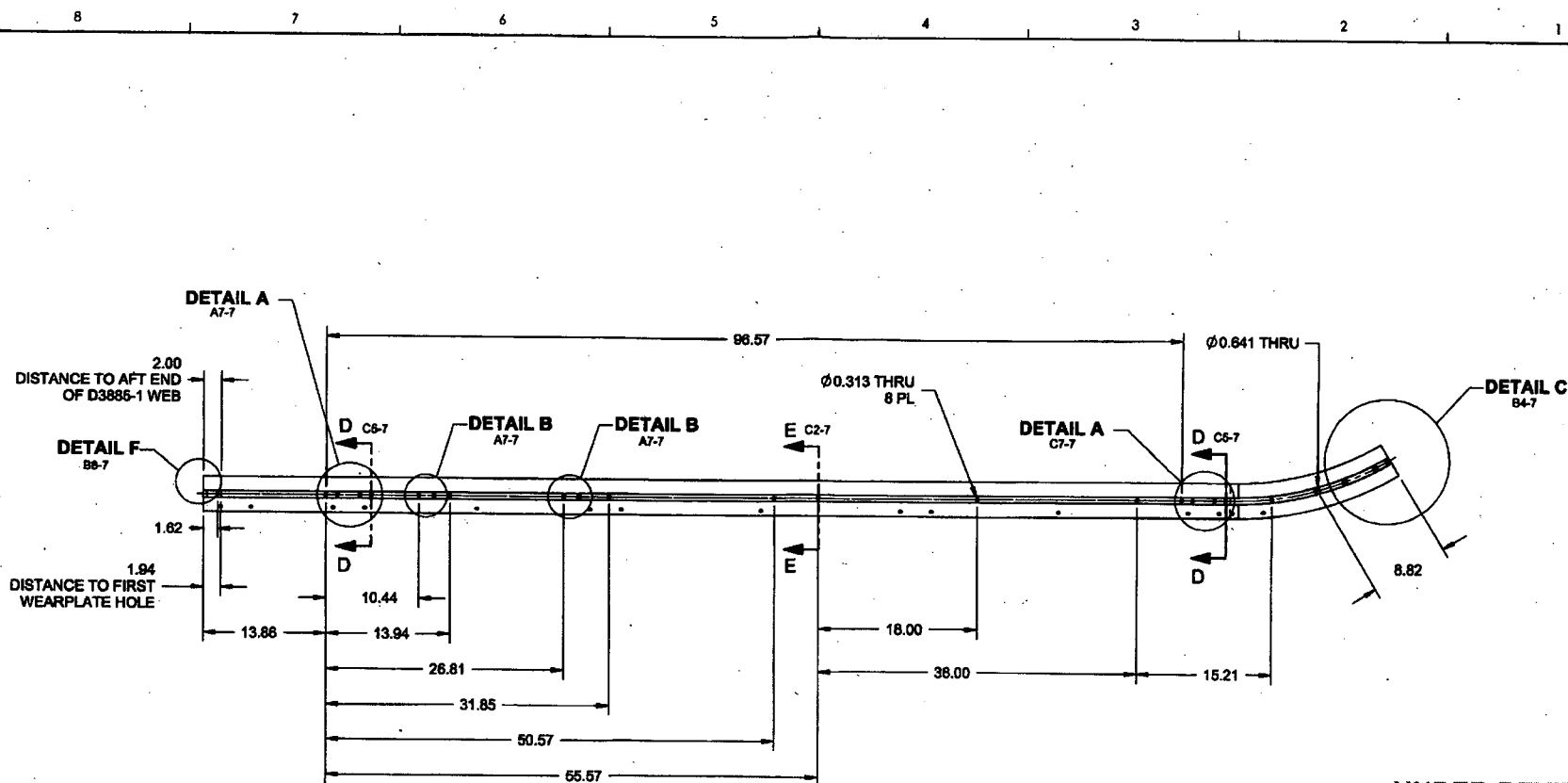
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MFG. APPR.	<i>JA</i>	D3887	SHEET 4 OF 8
APPROVED	<i>JA</i>	TITLE	SCALE
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D3887-11 DRILLING DETAIL
(MAKE FROM D3887-1)

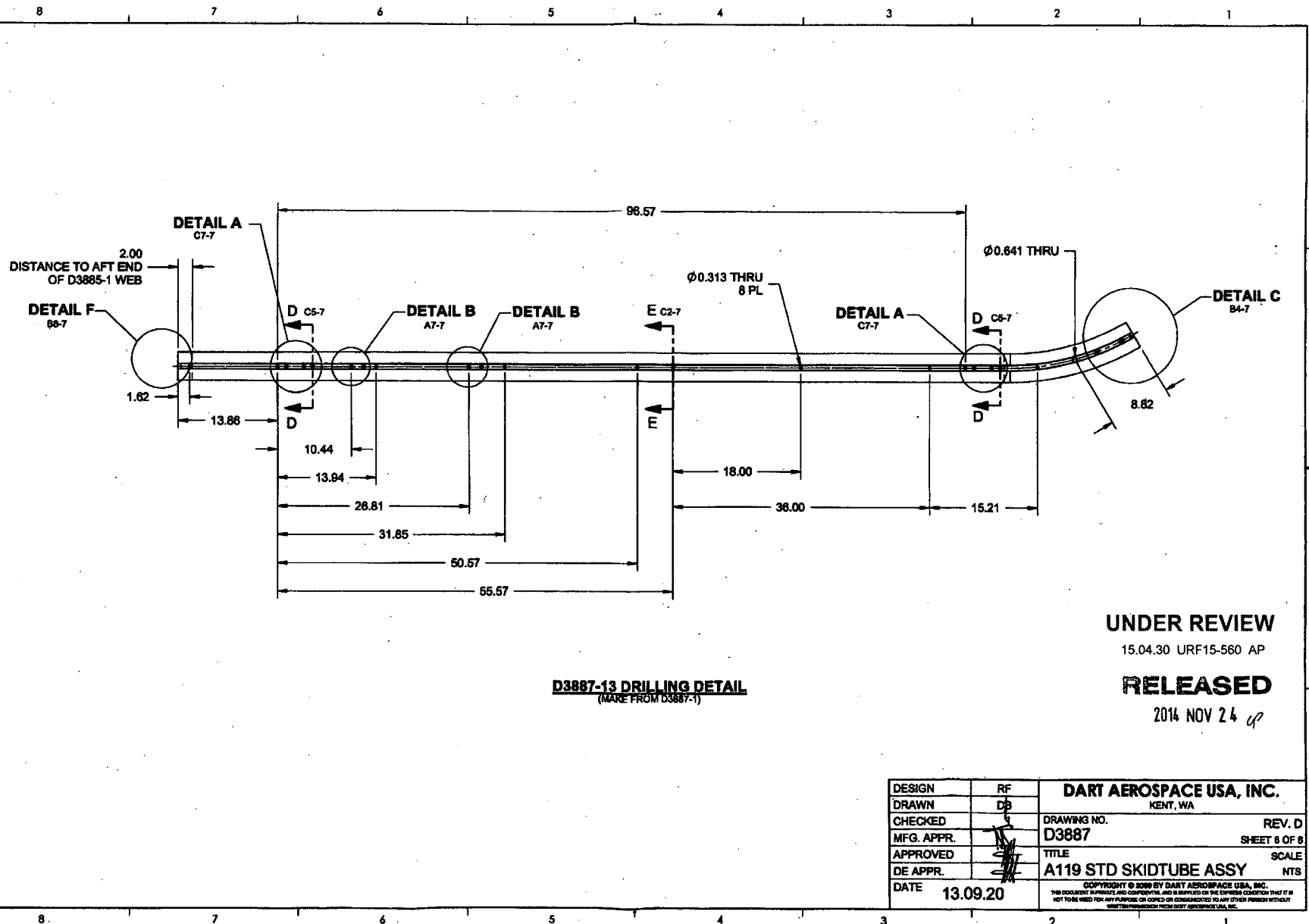
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MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 5 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	A119 STD SKIDTUBE ASSY	MTS
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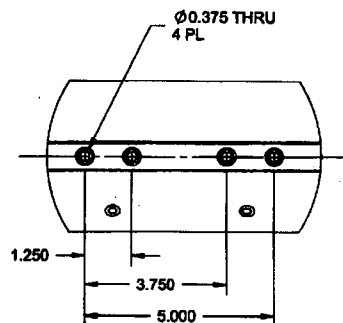


D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

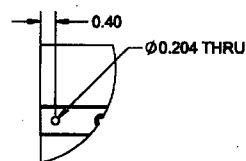
UNDER REVIEW
15.04.30 URF15-560 AP

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2014 NOV 24 *CP*

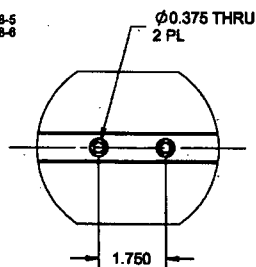
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
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MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 6 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	A119 STD SKIDTUBE ASSY	NTS
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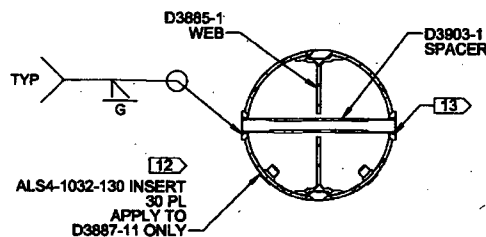
DETAIL A
SCALE 4X
D7-5
C3-5
D7-6
C3-6



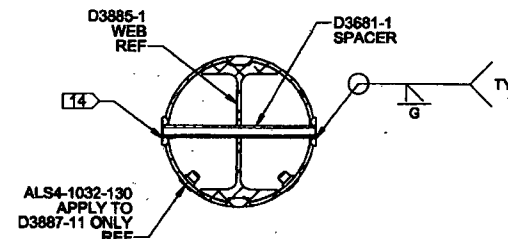
DETAIL F
SCALE 4X
C8-5
C8-6



DETAIL B
SCALE 4X
C6-5
C5-5
C6-6
C5-6



SECTION D-D
SCALE 4X
C7-5
C5-5
C7-6
C2-6
(FOR 12 X Ø0.375 HOLES PER SKIDTUBE)



SECTION E-E
SCALE 4X
C4-5
C4-6
(FOR 8 X Ø0.313 HOLES PER SKIDTUBE)

NOTES:

13) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- i) CHAMFER HOLES Ø0.475 x 45°
- ii) INSERT D3903-1 SPACER
- iii) WELD INTO PLACE AND GRIND FLUSH
- iv) CBORE TO 0.313 x 0.75 DEEP
- v) DEBURR HOLES

14) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:

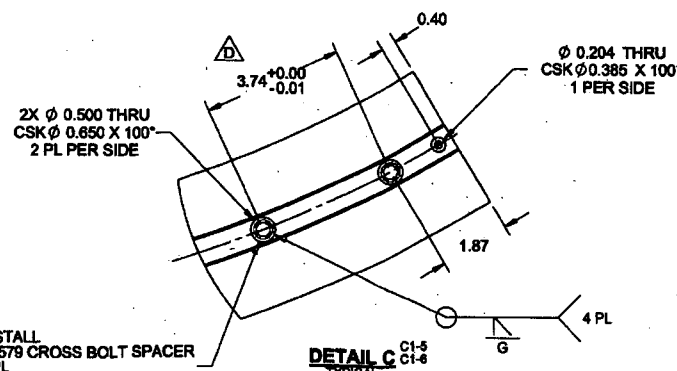
- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
- vii) INSERT D3681-1 SPACER
- viii) WELD INTO PLACE AND GRIND FLUSH
- ix) DEBURR HOLES

UNDER REVIEW

15.04.30 URF15-560 AP

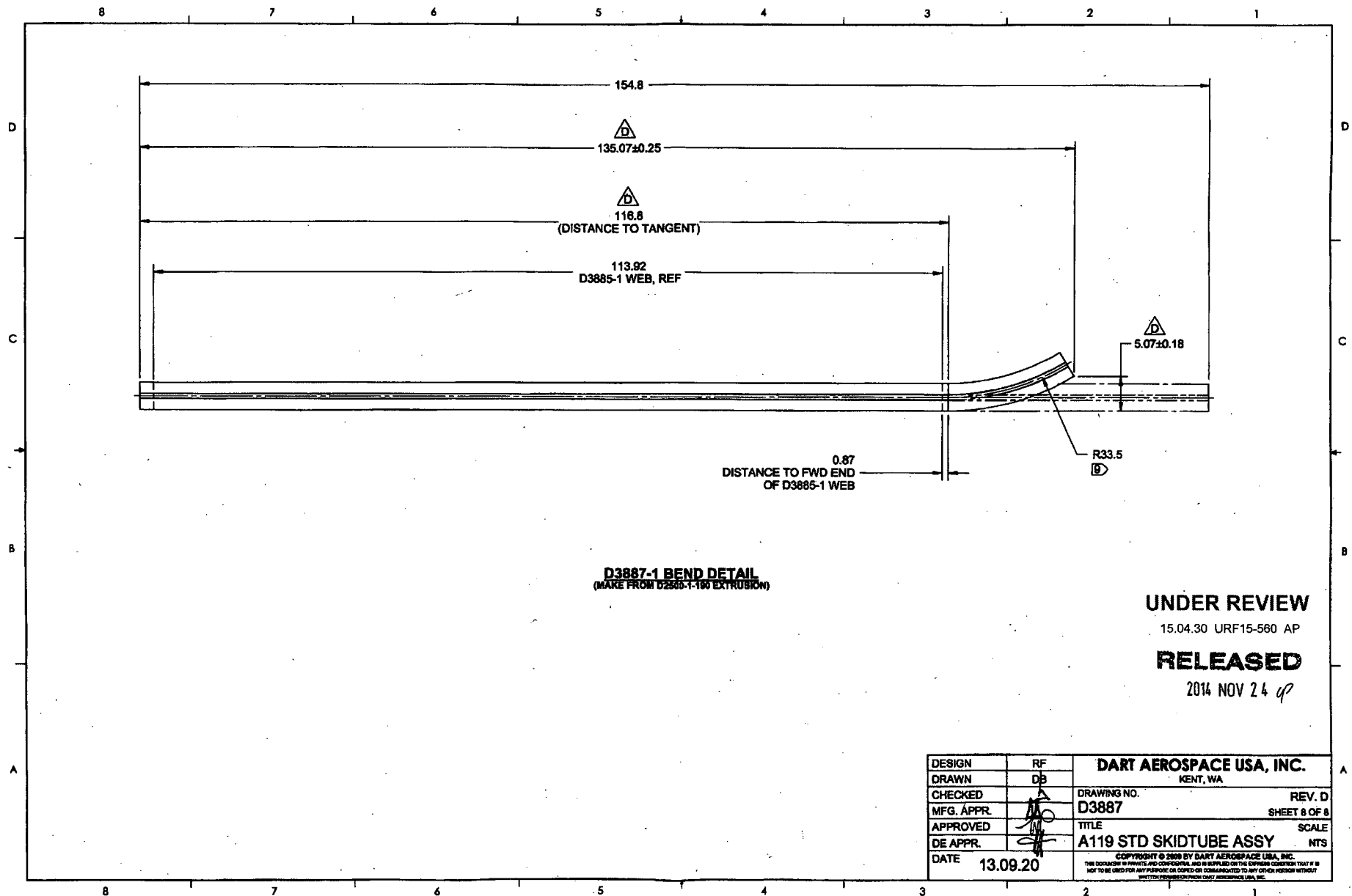
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2014 NOV 24 47



DETAIL C
TYPICAL
SCALE 4X
C1-5
C1-6

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MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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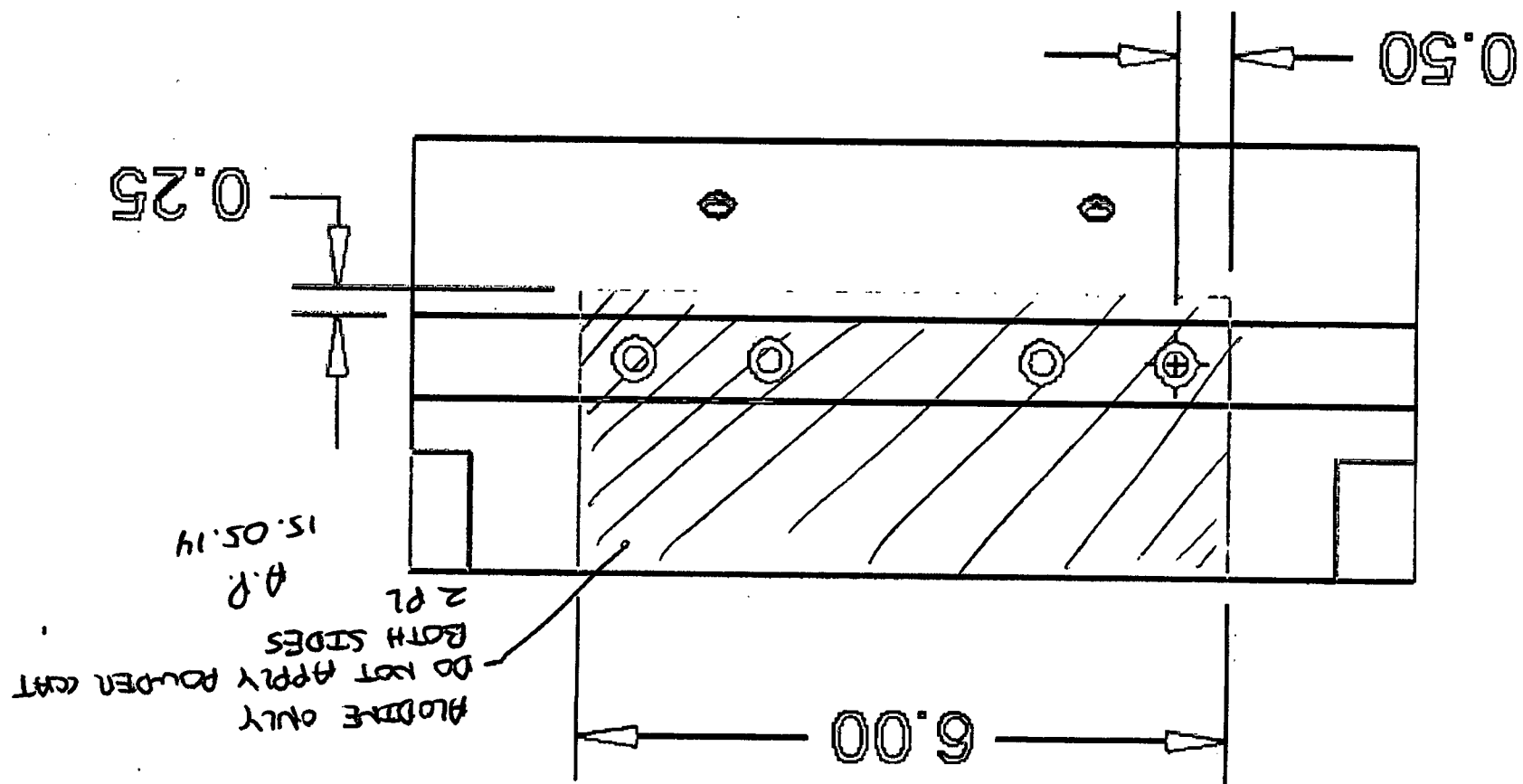
DQA: _____ Date: _____

QA Closed RAHDate: 16/05/17

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☒

Work Order: <u>144262</u> Part No. <u>D119-646-041</u> NCR No. <u>16-5792</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>			Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Large Fab ☐	Composite ☐	Supplier ☐																																																																		
Date: <u>16/4/11</u>	Step #: <u>200</u>	QTY Effective: <u>①</u>		MRB (QSI042) Approval DAS 12 9-89 <u>16/4/11</u>																																																																
Description Work Order Deviation Do not powder coat saddle mating surface per customer request, anodize only.		Disposition Finish per attached drawing		Completed By <u>988 16-01-26</u> Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>16-05-12</u> QC / QA Coordinator Approval DAS 9 9-89 <u>16-05-12</u>																																																																
Root Cause <table style="width:100%;"> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> </tr> <tr> <td>Doc/Data ☒</td> <td>Offset/Setup ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☒	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>			Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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☒ OTHER: <u>Customer request</u>																																																																				



DQA:

Date: 16.05.27

QA Closed:

Date: 16/05/18

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only



Work Order: <u>144262</u> Part No. <u>D119-646-041</u> NCR No. <u>16-5793</u>		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Date: <u>16/4/11</u>		Step #: <u>240</u>		QTY Effective: <u>①</u>		MRB (QS1042) Approval DAS 12 16/4/11 9-89																																																																	
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Plug holes with AN3C4A rather than AN3C5A				Acceptable AN3C-4A / M134606 (26)																																																																			
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Change Record

Part Number: D119-646-041

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Description: REPLACEMENT STD SKIDTUBE w/ WEARPADS

[illegible]